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158E
Return to Kest
OSA 1898-65

20 May 1965

MEMORANDUM FOR: Chief, Intelligence Division, OSA

SUBJECT : Evaluation of ASR-100 Radio Set

REFERENCE : Dispatch UODT 2276, dated 9 March 1965

1. Evaluation of Headquarters supplied radio set ASR-100 is being performed by Headquarter's Research and Development Laboratory. A copy of the evaluation report may be obtained approximately 60 days after completion of the test.

2. Rather than discourage the field evaluation of the ASR-100 as outlined in referenced dispatch, it is suggested that this evaluation be limited to a minimum number of sets.

3. Maximum advantage can be obtained from referenced testing if a complete evaluation of field test results is forwarded to Project Headquarters.

Chief, Communications & Field
Electronics Division
OSA-DD/S&T

25X1A

~~SECRET~~

GROUP 1
Excluded from automatic
downgrading and
declassification

DISPATCH

CLASSIFICATION

SECRET

PROCESSING ACTION

MARKED FOR INDEXING

NO INDEXING REQUIRED

ONLY QUALIFIED DESK
CAN JUDGE INDEXING

MICROFILM

TO

Chief OSA

INFO.

Operations

FROM

SUBJECT

Evaluation of Survival Radio

25X1A

ACTION REQUIRED - REFERENCES

Dispatched under separate cover is the evaluation of Survival Radio.

for

1 Atch **MAR 8 1965**

Survival Radio Evaluation (2 cys) (Under separate cover)

EDD

RS

RP

KB

WC

DB

NM

PA

RG

CROSS REFERENCE TO

DISPATCH SYMBOL AND NUMBER

DATE

MAR 9 1965

25X1A

SECRET

25X1

Approved For Release 2003/02/27 : CIA-RDP75B00285R000100220024-1

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INTRODUCTION

25X1A 1. This test is conducted under the authority of the [] 25X1A
[] to evaluate the performance of the Headquarters
supplied survival radio, and to determine its suitability as a re-
placement for the URT-21 presently carried in the seat survival
kits.

OBJECTIVE

2. To determine the operational range of tone and voice on both
UHF and VHF frequencies. To evaluate the operating life of the
power supply at various ambient temperatures. Also determine the
capability of the radio to operate under adverse weather conditions
and its operational durability.

DESCRIPTION OF TEST ITEM

3. The radio is a transistorized UHF-VHF transceiver with both
voice and tone capability. A complete description will be included
upon receipt of the test items.

FACTORS BEARING ON THE PROBLEM

4. The operational test of the radio will be done with the faci-
lities available at this station only. This may result in some
limitations on the testing.

TEST PROCEDURES

5. Test of the range of both tone and voice on 243mc utilizing the
morning F-101 weather flight for aircraft support. The Cessna 210
will be used to evaluate 121.5mc.

6. The radio will be operated during the departure and return of
the F-101 weather flight and readings of maximum voice range and
ADF tone range will be taken daily until sufficient data is avail-
able to determine a valid operational range. When the F-101 is
receiving valid TACAN from channel 85, it will be assumed the air-
craft is within line of sight of the test radio. The C-210 will be
used to provide a test of the VHF capability of the radio. If long
range testing of the VHF is required, the H-43 will be used to posi-
tion the radio on Baldy. This should give in excess of 100 miles
coverage even with the C-210.

7. Test of battery life will be conducted by the Communication
Section by operating the radio continuously until battery depletion,
under various constant temperature conditions.

8. The survival training section will subject the radio to estimated bailout "G" load and other conditions such as wetting or freezing that may occur under operational conditions, to determine any deficiencies that may exist. The radio will be carried during practice parachute jumps and during land and water parasail training.

SUPPORT REQUIREMENTS

9. The test will be conducted utilizing only sorties that are scheduled for other purposes, with test support as their secondary mission. The Operations section must coordinate the use of 121.5 and 243mc with FAA and Nellis AFB between the hours of 0700 to 0900 weekdays during the test period.

ESTIMATED COMPLETION DATE

10. The estimated date of completion of the test is 30 days after receipt of an operational radio and supply of batteries. An estimate of the time of arrival of the first radio is not available.

11. The provisions of this plan will apply to any other survival radios acquired in the future for testing.

ANNEX A

OPERATIONS

12. The test director or his representative will be in place adjacent to the runway with a radio equipped vehicle when the weather flight (or C-210) departs. For tone tests, the pilot will record altitude, radial, maximum ADF and maximum aural tone range during departure. On return, the aircraft will again record these items. For voice tests the pilot will record maximum voice contact range on departure and arrival. As far as possible, the aircraft will depart and return on the 330° radial of Jinks to give us maximum line of sight range. For maximum range VHF testing, the test director will coordinate the use of the C-210, and the H-43 for positioning of the radio on Baldy.

ANNEX B

OPERATIONAL AND TECHNICAL SUPPORT

25X1A

13. The [] communications section will test the radio operating life under various temperature conditions. For lower operating temperatures, tests will be conducted by operating the radio in a refrigerator (32° F), and a freezer (0° F) to determine battery operating life. The radio transmitter will be operated continuously until battery depletion causes failure.

14. The survival section will subject the radio to estimated bailout "G" loads and will assess the probable durability of the equipment under field conditions. The radio will be carried on practice parachute jumps by survival personnel and if time permits, during land and water parasail training. The radio will be exposed to rain and other inclement weather conditions to determine operation under adverse conditions.

ANNEX C

MATERIEL

15. None

ANNEX D

PERSONNEL

25X1A

16. []

Pilots: All F-101 and C-210 pilots.

25X1A

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